THE

SOUTHERN AGRICULTURIST.

JUNE, 1829.

PART I.

ORIGINAL CORRESPONDENCE.

[COMMUNICATED FOR THE SOUTHERN AGRICULTURIST.]

ART. I.—*Remarks on the Injury sustained by the Growers of Sea-Island Cotton, from the system of Secret Prices; by* WHITEMARSH B. SEABROOK; *read before the Agricultural Society of St. Paul, on the 27th April,* 1829.

The legitimate design of every Agricultural Society, is a free and unreserved interchange of opinion among its members. On this basis alone it can rest, and its utility is proportionate to the voluntary offerings of zeal and patriotism. The impediments which have hitherto intervened to thwart the views of such associations, are of a very general and complex character. Education, it is true, is insensibly removing the veil which has too long obscured the mental vision of the planter; still, there are moral evils, peculiar, it would seem, to his profession, which must be eradicated, ere geoponicks will be universally hailed as one of the most comprehensive and difficult, as well as important of sciences. In the very constitution of a society for the promotion of rural affairs, the idea is inseparable from it, that every member is under an imperative obligation to contribute his mite of information, and to impart all the light on the subject of his vocation of which his experience or his judgment is susceptible. In

this way, it is wisely supposed, that individual prosperity may be more speedily and efficiently promoted, than isolated efforts could ever hope to accomplish.

These reflections have been elicited by the excessive reserve among farmers, in relation to the communication of their theoretical or practical knowledge; but more especially, by the extraordinary excitement which now characterizes a part of the agricultural community. A few years ago, many associations for the improvement of husbandry were founded: hence, local information became more generally diffused, and the generous and laudable rivalship, which, at that period, commenced among the inmates of the agricultural family, bade fair to redound to the lasting prosperity of the State. It was then that the planter seemed zealously bent on fulfilling that beautiful and expressive moral apothegm, to do unto your neighbour as you would that he should do unto you. This happy state of things had existed but a short time, when self-interest, prompted by the munificent recompense which the industry of a distinguished planter* was annually receiving, aroused the slumbering energies of his fellow-labourers. In the prosecution of their researches, with a view to discover the *arcanum* of his success, the lips of the most confidential friends were soon hermetically sealed on every topic directly or incidentally connected with the object of their solicitude. If the evil had ended here, it might have been speedily alleviated; but, unfortunately, so great and extensive is the delusion on this subject, that a dumb lecture on taciturnity too often signalizes the proceedings of many of our most respectable agricultural institutions. In reference to the particular matter to which I have invited your attention, credence is unwillingly yielded to the fact, that it is difficult to ascertain what price a single bag of Sea-Island Cotton may have commanded; and sometimes the very name of the owner is veiled in mystery. Although the great majority of the cultivators of Black-seed Cotton conform to the prevalent usage under the belief that their interests are thereby more securely advanced, yet, it is undeniable, that many are compelled practically to subscribe to the doctrine of secrecy from the low remuneration they are wont to receive for their labour and skill. It is susceptible of

* Kinsey Burden, Esq. of John's Island.

proof, that the practice is not only at war with the stability and well-being of our societies, but that private gain is not in any way promoted by it. For what reason is silence enjoined on the owner of long Cotton with regard to the price which he may have received for it? Because, if the transaction were publicly known, pride, or some other consideration, would impel his neighbours to refuse to sell their crops at a lower rate. Admitting the existence of such a determination, will it follow that the merchant would be constrained from necessity, or motives of policy, to purchase every lot of Cotton on the same terms? This would be to suppose that every brand is equally valuable. As it is well known that the varieties of Cotton, from dissimilitude of cultivation and management, are very numerous, the inference is plain, that as long as the same cause exists, the prices of that article will continue to be different. Suppose a parcel of Cotton to have commanded a certain sum per pound, and that we were to ask the same, or even a higher price for a part or the whole of our crops. If all the parcels be equally fine, which is not probable, the presumption is in favour of their being purchased at the same rate. If they differ, however, in quality, they will be estimated at their actual or supposed worth, which will be proportioned to the highest value which the brand of the greatest reputation may have received. This is the necessary effect of the uncontrolled course of trade, and in conformity to the real state of facts with regard to all of our staple commodities. If my neighbour's Cotton be better adapted to the purposes of the spinner than mine, he will, in general, obtain more for it; and neither secrecy in reference to the price, nor any other scheme, will impair its reputation, or elevate the character of any other brand. "Fine and coarse Sea-Islands," says a distinguished spinner of Manchester, "are nearly as distinct in their value and different in the purposes they serve, as Silk and Cotton. Coarse Cotton, however abundant and cheap, can never be a substitute for fine, and hence the value of the latter is in a great measure independent of the former." "The branch of spinning more particularly denominated fine in this country," he continues, "is employed in spinning yarn, containing 160 hanks and upwards (of 840 yards each) per pound weight. The consumption of Cotton in this branch is probably from 4 to 5000 bags per annum;

of which 2500 may be used in spinning from 160 to 180 hanks—2000 in spinning from 180 to 200 hanks—250 in spinning from 200 to 220 hanks—and about 70 bags in spinning above that number. There is no difficulty in procuring regularly, and in plenty, Cotton to spin up to 180 hanks; from thence to 190 hanks, it is scarcer, and from 190 to 200 hanks it is scarcer still. The prices of the three qualities here particularized, may, this year, (1828) have averaged in this market 22*d*. 30*d*. and 40*d*. This disparity in price, when the difference in quality is so slight, holds out, we should hope, a strong inducement to the planter, to cultivate the fine and strong Cotton here described. Such a quality will always command a sale, and from the superior strength of yarn it produces, savings will be made in every stage of the manufacture; by which, the cost of our productions will be lessened—their price cheapened without reduction of profit, and their consumption, and consequently that of fine Cotton increased." These extracts are introduced with a view, among other reasons, to shew, that not only a slight variation in the quality of Cotton will produce a very essential difference in its value, but that the supply of the description alluded to by the Manchester spinner, is not commensurate with the demand. This opinion is corroborated by the reflection, that although the quantity raised the last two years was infinitely greater than at any former period, yet, that every bale was readily purchased at prices unprecedentedly high. The object of a buyer being to associate cheapness with the excellence of an article, the purchaser of the commodity under consideration endeavours to effect this purpose by an illusive appeal to the private emolument of the planter. By this artifice, the actual worth of the raw material is kept down: for, if this was not the case, persistance in the practice would be idle and unmeaning. Why does not secrecy prevail in relation to the prices of Upland Cotton, Rice, or any other staple article? Because the same scarcity does not exist; and this consideration alone is proof to demonstration, that the cultivator of Sea-Island Cotton is injuriously but unwittingly warring against his best interests. As the spinner is supplied but from two markets, where the quantity continues to be inadequate to his purpose, open and undisguised dealings in this commodity, would not only develope the character and extent of the combination or competition

among the buyers, but they would disclose to the planter other information, by which he could estimate the value of his property. At present, neither he nor his factor can profit by this knowledge, in consequence of which sales of Black-seed Cotton are oft-times ruinously procrastinated, or too hastily effected. Hence also, the want of confidence in factors, as exemplified in the variable number of their employers, and the extreme dissatisfaction which many of our vocation are continually manifesting towards that highly useful and respectable class of citizens. Other consequences, equally inimical to our prosperity, follow in this train of evils. To secrecy, is to be ascribed in part the great disparity which exists in the reputation of different brands. The value of fine Cotton, instead of being ascertained by its intrinsic excellence, or its scarcity, is made to depend on the zeal, the industry, or the foresight of a few individuals, who are thus compelled to decide on the worth of millions of property, without the usual data to guide and direct their judgments. If it had been the object of the merchant to dissever the bands which have so long and so happily united a part of the agricultural community, he could not have accomplished this design more efficaciously than by enforcing the policy I have noticed. Comity and friendship among the labourers of the same pursuit, are rapidly yielding to the influence of unkind and pettish feelings. Suspicion and distrust mark the actions of men, on whose bosoms generosity and frankness were supposed to have been indelibly impressed: in fine, the sweetest and most endearing ties of social life have been weakened, and the cultivator of the soil now refuses to extend the hand of confidence to the only class, who is at all times competent, and should be always willing to aid him in his calling. Although, in the main, the merchant and planter are reciprocally benefited by the prosperity of each other, yet, the subject of these comments proves, that the gain of the one is sometimes in the ratio of the loss of the other. The necessity of executing promptly the instructions of his employers, the number of vessels in port, or some other contingency, might obligate a merchant to purchase several lots of Cotton at extravagant rates. In every such instance the device of secrecy exercises a salutary influence on his subsequent transactions; for, as long as the prices which the Cottons commanded continue unknown, the market can

in nowise be affected. The planter, ignorant of passing events, and believing, perhaps, that his sales have been more lucrative than those of his neighbour, whilst, in truth, he may have been less fortunate, and whilst both may have been outwitted by the fair dealing, but dexterous movement of the buyer, he seems satisfied, if not especially pleased with the mysterious gloom which enwraps the agricultural horizon. In his vocation he clandestinely toils, as though he apprehended that the eyes of his fellow-labourers would blast the projects of his ambition.

In descanting thus freely on a topic which is likely to sap the foundation of many of the Agricultural Societies of the State, I must not be understood to decry the silence that prevails on the subject of the most essential agent in the production of fine Sea-Island Cotton. No planter is under any obligation to disclose the secret. If the persevering industry and assiduous attention of Mr. Burden discovered it, it is as just that he should profit by it, as it is that the author of any valuable discovery or invention should be protected in his rights by legal enactment. The supposed *desideratum* which is now the object of our unwearied solicitude, if publicly promulgated, would not, I apprehend, benefit a solitary individual. Fine Cotton, in such an event, from excess of production, would, comparatively, soon be reduced to the level of the most common qualities. The mystery, in relation to the true cause of Mr. Burden's success, has had, in one respect, a beneficent operation on the interested part of the agricultural community. We have been incited by one of the most powerful dictates of the human heart, to superintend with greater care and regularity, the multifarious concerns of our plantations—to seek diligently for the most useful principles in the science of agriculture, and above all, to be more vigilant and attentive to the various duties of rural life. Hence, what confounded the most intelligent and industrious of the profession is no longer involved in doubt. It is now ascertained that the chief secret in the raising of fine Cotton lies in the seed, the character of which can never be determined by its configuration or general appearance. At the commencement of the harvest season, Cotton of a silky fibre may be found on the lower branches of a particular stalk. If the discoverer, elated with his success, blends all the fruit on the same stalk, without subsequent and repeated examina-

tions, he will never arrive at the goal of his wish; for, immoderate rains or drought, and many other causes, are calculated to deteriorate the valuable properties of Cotton. The ambitious planter, therefore, should select his seed annually, not by order, but by his personal attention. This labour removed, let him dry his crop but little—if possible, in the shade. If by the first process he obtains a fine staple, he will, by the last, should he have adopted the precautionary measure of using the most appropriate manures,* ensure a strong and healthy fibre. It may now be inquired whether these admonitions are the result of experience. To this I answer in the affirmative. It is true that from my engagements, both public and private, I have been prevented from raising but a very inconsiderable portion of peculiarly fine Cotton, yet, I have picked, on different years, small samples of as silky a texture of that article, as I remember ever to have seen. With regard to the other indispensable requisites in the formation of a distinguished brand, as detailed in the extracts from the letter already alluded to, my own observations, added to the practical knowledge of many of the most successful planters, bears ample testimony.

All which is respectfully submitted.

WHITEMARSH B. SEABROOK.

Edisto Island, April 27, 1829.

ART. II.—*On Planting and Managing a Rice Crop; by the late* JAMES C. DARBY.

OBSERVATIONS BY THE EDITOR.

We request every planter to peruse the sound observations of Mr. Darby on drivers and overseers. They are dictated by experience and personal observation, and come

* Salt, clay, mud, marsh, rushes, and all manures, other than composts, or those of too stimulating a nature. Salt, itself, in the proportion of one quart to three pints to the task row, unassisted by any other manure, is a powerful auxiliary in the formation of a fine staple.

from one, who, without pretention, appears to have understood well the business of a Southern Agriculturist, in the relative duties of planter, overseer and driver.

Whatever might have been the customs and usages of former days, when these southern countries were colonies, the times are changed, and we must adapt our conduct to the circumstances we are now in, and not be guided by the theories, or even by the experience of our forefathers. Many planters are said to have made good crops by trusting to their drivers *formerly*, but such are the innumerable facilities now given to plundering from plantations, and especially to plundering Rice and Corn, that no black man can resist them, and we fear that even amongst white men, many *who ought to know better*, have the moral principle greatly relaxed, and join in with others to plunder the planters, or *to permit it to be done.*

But we are anticipating the subject on which we intend to enter fully, and we shall therefore, make no further observations on Mr. Darby's communication, than to recommend it strongly to such of our readers as have had no opportunity of spending a summer, either on their own plantations, or near enough to watch the crop themselves. Many things are said in homely language, but are so just, that we should be glad to find others, of equal experience, as freely giving the result of their observations through our work. J. G.

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"North Santee, 1827.

Dear Sir,—I herein submit to you my usual proceedings in regard to Rice planting, from planting until the crop is ready to harvest, acquired in several years experience, by close and personal attendance to the same.

It requires steady, close, and personal attention to make a man acquainted with his profession or business—the planter as well as the mechanic: for unless a man has the practical part, the theory is of little use to him, and more particularly a Rice planter. It is out of the question for a man that spends but half the year, and that in the winter, on his plantation, to have any, or but little knowledge of what is required to be done; yet, I know there are many who do undertake to direct, that scarcely ever spent a

summer on a plantation; and there are many planters, also, who intrust their planting interest entirely to their drivers, *which soon spoils the best of drivers, when left to themselves.* I will venture to assert, that where it is left to the driver, in that way, his crop soon begins to fall short—will continue to do so every year, until the land gets so much out of order, that he cannot make more than half a crop, besides accumulating bad practices and vice on the plantation: such as theft, disobedience, running away, &c. It is a well-known fact, that a driver, when left to himself, will not keep up his authority, and *more particularly so of late years than formerly.* Nor can it be expected of them that they will. But I once heard a gentleman say, that he would sooner trust his planting interest to his main or leading fellow, than he would to any white man—his planting interest was small, but this proves how ignorant he was as to his own interest, although a smart man in his own profession.

I agree that there are a great many men that would be quite a nuisance on a plantation. But I say, hire good men, that are well experienced as managers and planters, and pay them wages that will well compensate them for their services. But I have heard planters say they could not afford to employ such men. But I say, again, that this is the right plan, or way to become able. Would it not be an advantage to a planter to hire a man that would make him a fourth or a fifth, or even an eighth more than he would otherwise make. However, time alone will be required to cause a great many planters to think with me on this subject, and I leave it to time to convince them, or such as are not already convinced, and return to my mode of planting.

From the fifteenth to the twentieth of March is the most advisable time to commence Rice planting, and all planters should have their land nearly all in order by that time, and ready for planting, and the task in trenching is three quarters of an acre to each hand, the sowers nine quarters each, and those that cover, each three quarters. But it is a great saving of labour not to cover at all, where you have access to a plenty of water; it has been my rule of planting for a few years past, which has been attended with satisfactory success, and I intend to continue it; for in addition to

saving labour, you will have less grass, and less volunteer Rice in the trench. But it will be best to put your seed Rice in soak the day before you plant; soaking prevents it from floating. But you must keep it hauled up on the ends of the flat an hour or two before planting, that it may scatter well, and it would be a good plan to arrange, so as to plant a square per day, and flow it at night, as in that case there is no danger of its floating. I prefer trenching with a three inch hoe that has a heavy eye; old broad hoes that are well worn, cut to a proper size and shape, make very good trenching hoes. Where you plant without covering, the land should be chopped or harrowed before planting.

At my commencement of planting, I put two bushels and a peck of seed Rice to the acre; later in the season, and when the land becomes warmer, I then put two bushels and four quarts. I know some planters object to planting so much seed to the acre, however I have tried different quantities, and find that most to my interest. Trench with a five foot stake, putting four rows, say fifteen inches from the centre of one trench to the other, making eighty-four rows to the quarter, which I find the best distance; and a seven inch hoe is of the width to hoe Rice planted that distance.

As quick as you finish planting a square, flow, and keep it flowed four or five days, taking off any trash that may collect. Later in the season, when the weather becomes warmer, from three to four days will be long enough to keep the water on; unless you plant without covering the Rice, then keep it flowed until it sprouts, when you must leak off, by putting a stick in the door for one or two days, until the water gets down to the surface. After that, open the trunk door and dry as quick as possible. As land should never be in a *solid* state, whether planted or not, but more particularly after planting, when dried let it be made as dry as can be, and when flowed, to be *well flowed.*

Almost every planter knows, that the sooner Rice, or the quicker land is dried after planting, the sooner it gets warm, and consequently the Rice germinates quicker—water of course keeps land cool; and there is another objection I have to keeping the sprout flow on for a longer time, it settles the land, and washes over it so much, that it becomes so compact, particularly on the trenches, that,

when dried, there is a hard scale or crust on the Rice, that prevents it from getting up well, and then the point-flow is required, which I do not approve of, unless the land be very rough, and a great many small clods on the Rice; in that case, let in two, and not exceeding three tides, and let it off immediately; when we can have a good shower of rain about that time, it is better than point-flowing.

In chop-trenching, half an acre to the hand is the day's work. But I do not approve of chop-trenching; you can scarcely ever get as regular a stand of Rice, and it generally puts the Rice too low or deep in the earth. I like shallow planting, for you lose a third of the work in trenching.

I prefer planting my old land first, and leaving that which has been recently taken in, and has not been planted, for the last planting; in trenching new land, from one quarter to a quarter and a half is the day's work.

It generally occupies about six weeks to plant a crop. I like to finish planting by the first of May, and by that time, at farthest, your first planted Rice will require to be hoed, when it will be from four to six inches in height.

I should have observed, that six acres to the hand, of Rice, would be enough to plant, and I know many planters that do not exceed five acres to the hand, and some but four even; but that is too little, if the land is in any thing like good order.

In hoeing, chop short and deep, and at the same time turn the land well, and half an acre is the task to clear the large lumps off from the Rice, and to take out any large weeds that may be among the Rice.

If you have time, give it a second hoeing before you flow; but if time will not admit of hoeing a second time, which it will not if you have a full crop planted, then, in that case, flow each square as you hoe them over; after giving them a few days' sun to kill the grass, flow deep for three, or even from four to six days, in the early part of the season, taking off any trash that may collect, immediately, that it may not settle down on the Rice to destroy it: then drop the water, by putting a small stick in the door, until the ends of the Rice blade appear upon the surface of the water, or until you can mark the rows of Rice nearly across the field, then put a notch on the posts of the trunk, and keep the water as nearly as possible to

that guage, and that can be done by putting a small stick in the outside door of the trunk, which will take in as much water on each flood tide as the fields leek off on ebb tides.

I should have observed, in the proper place, that the worms very often attack Rice, even very soon after it gets up, and before you can hoe; in that case, let in a few tides, and turn off the water again, this will destroy all worms that are injurious to Rice, when it is dry. I should also have observed, that should the grass seem likely to come up too fast for you, you can even flow before you hoe, when the Rice is in the second blade, and keep it flooded from eighteen to twenty-five days, or until the Rice will generally stand up. The first flowing after the Rice is hoed, is called the long flow, and should be held on from fifteen to twenty-three days, or until the Rice takes the second start to grow; dry it by putting a stick in the door, and let it run off slowly for two or three days, until it is nearly all off the surface of the land, then open the trunk door and dry the field as quick as possible.

When the fields become quite dry, which will require a week at least, then hoe again as before; chop short and deep, so as to stir the land well; for unless the land be well turned up, and that to a proper depth, it is impossible to make a full crop of Rice: still I know some planters that do not do more than cut the grass off even with the surface of the land, from the time they plant their crop; but those planters do not make any thing like full crops. Stirring the land, and that to a proper depth, say at least three inches deep, enlivens the land, and mellows it, so that the air gets into it, and the Rice roots expand the more, and consequently the plants become more luxuriant. In this hoeing also, there should be great care taken to take all the grass from the Rice rows, and to be particular to take the grass roots up well with it, for if it is broken off at the surface of the land, it might almost as well remain untouched, as it sprouts up much thicker than ever, and particularly the white shank grass, which is the most injurious grass we have to a Rice crop, growing almost as quick as asparagus, after being broken off above the roots, and which will grow as well in the water as on dry land, unless it is destroyed by water, almost as soon as it gets up.

In this hoeing, comb up with the fingers any fallen Rice. There cannot be a rule for task work in this hoeing laid down, that can be strictly attended to: it depends much on the state the Rice is in, as to grass, &c. A half acre is in most cases done, or given; but I have often seen it take one, two, and sometimes three hands to the quarter, to clear the field well of grass, so that the day's work in this hoeing must be regulated altogether by the manager's judgment. Keep dry and hoe again if you have time.

In this hoeing, which is the third and last hoeing, hoe *light*—just shave the land over and pick out any grass that may have been left in the Rice, and here the days' work will be, in most cases, three quarters of an acre to the hand—say, keeping it dry, after the long flow is taken off, at least four weeks, until the first joint is drawn near an inch, and the second joint formed, then flood the same depth as before, and raise the water as the Rice grows, taking care not to raise it, so as to cover the ears of Rice, and now, if your Rice seems like coming on too much together, you may forward some fields by flowing a little sooner, and keeping others dry, which will prolong the harvesting. But, in almost all cases, it is our interest to push the Rice forward, as fast as possible, in order to get it ready to harvest as early as possible, that we may get as much in the barn-yard as we can before the time for high winds and gales. But I have gone too far ahead.

This is the last flowing, and the water should be changed once in every two or three weeks, by running it off in one or two tides, and then flood again immediately. But it is not uncommon for the water worm to attack the Rice in the roots, after it is in joint, which will destroy the Rice if they remain. Lands that do not drain well, or are subject to salt spots, &c. are most subject to those worms, and more particularly in a dry year, when the water is a little hard or brackish, then they never fail to give notice of their approach; they are a worm that breeds altogether in the water, and it may be known by the plant changing colour, the blades of the Rice becoming darker and quite pointed, appearing as if they had been wilted by fire; they first commence in the lowest parts of the field, and continue to spread until they get over the whole field. By drawing up a branch of the Rice, when they commence their attack, you will see a number of white worms in the

roots of the Rice, about the size, or a little under, of that of a maggot; to destroy them, turn the water off immediately, and keep dry for six or eight days, until they disappear, then flow again. I have even known those worms to attack Rice when in belly, but at whatever state of the Rice it may be, the only way to destroy them is to dry the field. All worms that are destructive to Rice *when dry*, must be destroyed by *flooding;* and for all worms that injure the Rice in the *water*, the only remedy against them is to dry the field.

Whatever work is to be done to a Rice crop, after it is in joint, can be done in the water, until it begins to ear out. I would then advise, whether grassy or not, to keep the hands out of it, until the Rice gets hard, then pull out any grass that may have been neglected to be taken out at a proper time through the hoeing, &c.

I will venture to assert, that when justice has been done to a crop in picking the grass out clean in hoeing, after the long flow, there will be no grass to pull up from the Rice when it draws near harvest. I have seen plantations that had almost come to that state, from what I call carelessness in the manager, and from consequent pollution of the land with grass seed, that it required double the labour to cultivate or tend the same land the succeeding year.

With great respect, I remain yours, &c.

JAMES C. DARBY.

To John D. Legare, Esq.

Art. III.—*Upper Country Cultivation; by Ex-Governor* Williams, *of South-Carolina.*

[from the American Farmer.]

"South-Carolina, June 30, 1825.

Sir,—I have been a constant reader of your paper, and have derived both improvement and pleasure from its columns. The earnestness with which I have sought for communications headed "cotton culture," has frequently admonished me, that I was as much bound to communicate

my experience, as were any of your numerous correspondents, from whose labours I have profited; and who, being less backward, are therefore more deserving: nor will I be longer deterred from such communication because I am conscious I have not reached perfection in the culture of a particular plant. The buoy is sometimes as important to the mariner, in showing him where he ought not to go, as is the pilot, at another, in directing him where he may. The cultivators of cotton have contributed less than other planters to make your paper valuable. These observations will serve to augment the number of good intents on their part, if nothing more.

The cotton plant, while in the seed leaf, is very tender, perhaps as much so as any, of the most tender, of our garden vegetables; when it has arrived to what we call the cotton leaf, it is probably more hardy than any of them. The product of an acre of rich land is increased, in my opinion, more by the *length of time it is allowed to grow*, than from any other single circumstance: hence it is advisable to plant as early as the absence of frost will admit; and being in its early stage *very tender*, too much care and labour, in preparing the ground for the seed, can hardly be given. My method is to plant in drills, on beds made with the plough and hoe, or plough and horse-rake, or harrow, according to the nature and circumstances of the soil. Land that will produce ten bushels of corn to the acre, can yield five hundred pounds of seed cotton. The drills on such land, I make three feet apart; and thin out the cotton, to the width of the hand between the stalks. If the drills were nearer, the product might be somewhat greater, but the use of the plough would be more difficult. From land that has yielded me seventy-five bushels of corn to the acre, I have weighed twenty-three hundred pounds of seed cotton. This was planted at seven feet distance, between the drills, and thinned out to three feet between the stalks: these extremes embrace the entire distances of which I have any experience, and by which I am governed. When I have land sufficient for these changes, my course of crops is cotton, corn and small grain. My first process is, to run furrows as deep, with a Freeborn No. 1½ plough, as two mules can draw it, at the distance from each other that I mean to have my cotton rows. Into these furrows I draw, with the weeding hoe, (we call it "listing,") all the stubble

and vegetable matter between the rows; having sprinkled plaister on it, I break up the "balks," intervals between the rows, as deep as possible, with the same description of plough. When this is done in old land, or land pretty clear of stumps, I prepare and finish these beds, thus thrown together with the plough, generally, with the horse rake, by running them on the beds backward and forward, until the surface be pulverized sufficiently to receive the seed. When in new ground, abounding in stumps, the clods are broken, and the surface prepared, with the weeding hoe. If the land be very stiff and cloddy, I prepare the beds with harrows, instead of the horse-rake. My harrows are made in two parts, attached together by hooks and hinges, and when put together, form an angle less than a right angle triangle: when at work, the joints or hinges, being over the middle of the beds, admit the teeth to touch and work the whole surface, sides as well as tops of the beds at once. When the beds are too dry and hard, I find it advantageous to secure on each leaf of the harrow, a block of wood, more or less heavy, according to the nature and state of the ground: these are worked easily by two mules. My horse-rakes are made with a piece of timber two feet and a half long, five inches thick and twelve inches wide, worked off at the two ends, and hallowed out in the middle, so as to be in a semicircular form, five inches by six inches when finished; into the hollow edge two rows of iron teeth, half an inch thick, three quarters wide, to show five inches, are inserted; the front row placed opposite the intervals of the back row; the rows three inches apart, and teeth four inches in the rows from each other; on the top of the semicircular piece, fasten two pieces of oak four feet long, three by two inches in size, resembling somewhat the hind hounds of a wagon, with a nose-iron, where the two forward ends are joined together, for the swingle tree; above these attach two handles, like a common plough. This horse-rake I have found very advantageous, not only in preparing the beds for the seed, but also in covering them when dropped in the drills. When the ground is in proper order for work, they finish the beds in a beautiful and most regular manner. The seed may be covered with them better than in any other way; and as they expedite the work very much, it rarely happens that I may not wait for the ground to be in the best possible state for covering. A

man and one mule may prepare with it from six to ten acres a day, and can cover as much, according to the state of the ground and the width of the rows. The beds being thus made, and the season for planting at hand, I proceed to open the drills; this I do with a drill plough. It is made, by fastening to the bottom of a piece of two inch plank, ten inches wide, two feet and a half long, square at the hind end and pointed at the front one, a piece of oak, by way of keel, of the same length, one inch thick at the bottom edge and three at the upper. The bottom edge is armed with an iron plate half an inch thick, so pointed and squared at the front end, as to enter the socket of a coulter of the common form, the upper end of which is wedged securely in the beam—the upper fixtures are like those of a plough secured to the plank by a helve; the keel ought not to be more than two inches deep. This plough is very light, and is worked by one mule, walking on the top of the beds, and can open as many drills in a day as a horse-rake can cover.

For several years last past, I have omitted to cover the seed at the time of dropping it. In stiff land, the advantage results from lessening the chances of the soil being "caked" over it by hard rains, through which the cotton cannot penetrate, and which must be raked in some way, or replanted. In light soils, the rains which fall after the seed is dropped, will cover them sufficiently—but if this does not happen, by having a proper number of horse-rakes, each being capable of covering ten acres in the day, the whole crop may be covered in two days, and of course commenced at the very moment when the ground is in the best possible state for the operation. By this mode of covering, the whole surface of the bed is stirred and dressed nicely, *later* after the seed is dropped, and in a more expeditious manner than any other I have seen tried.

Having planted my cotton, which I ought, perhaps, to have said, I invariably begin on the last of March, or first day of April, I begin the culture of it, as soon as the progress of other business will admit, whether it has got up or not. The first operation is to hoe it. This is done for the first time, by shaving down the beds, as near to the plant, and as light as possible; if there be weeds or grass too near the plant to be removed by the hoe, they must be picked out with the fingers: this is indispensable, to save

time and labour afterwards. Immediately after the cotton is hoed, *i. e.* a sufficient quantity to admit the ploughs; not waiting to complete the first hoeing, I commence the first ploughing: this is done by running one furrow as close to the cotton and as shallow as possible, on each side of the rows, throwing the furrow-slice from the cotton. All the corn I have not hoed previous to the hoeing of cotton, (I prefer there should be none,) I now hoe; and then commence the second hoeing of the cotton. This is done by chopping through the rows of cotton, either with the corner of the hoe, or to its full width, if the soil be rich, leaving the cotton in bunches of four stalks between the chops, stirring the beds on both sides, and filling up the chops with fine soil drawn up from the sides of the beds. Now follows the second ploughing: reverse the furrow slice of the first ploughing, by throwing it towards the cotton, by one furrow on each side of the rows, the mould-board next to the cotton of course; the balks, or "middles," are then to be flushed up, either with shovel, skimmer, or double iron mould-board ploughs, according to the state of the weather; if it be dry, I prefer the two first—if wet, the last is best. Thus I proceed, alternately hoeing, always drawing up the soil after the first hoeing and ploughing; always with the mould-board to the cotton after the first ploughing, until the limbs have grown so much as to prevent both hoe and plough from passing between them, without breaking them off. This happens generally by the 1st of August, by which time I have usually hoed the cotton eight or nine times. I find it necessary to hoe such a portion of the corn, at the end of each hoeing of the cotton, as will give to it a sufficient quantity of work to keep it clean. I also endeavour to have each series of ploughing began at a little distance farther from both cotton and corn, than that which preceded it; thus cutting the principal roots of both, at each ploughing, farther from the stalk than it was cut before. By this process, I believe, the small fibres are increased, and additional mouths opened, through which the plants draw their nourishment.

I conclude, from examination of the roots, that they grow into small knots when cut, and issue from these, and from between these and the stalks, small fibres, other than would issue, if they were not cut; of course they ought not to be cut *back*, or a second time nearer to the stalk than they

were previously. The last operation in the cultivation of cotton with the plough, should be to run a furrow with a bull-tongue, or with a coulter plough, in the middle between the rows, and as deep as may be; these ploughs being very narrow, may be passed between the rows, without injury, later than any other. Except this furrow, I endeavour to cultivate as shallow as possible.

Cotton should be thinned after the first hoeing. At the second hoeing, I chop through the drills, leaving it in bunches; at the third hoeing, I reduce these bunches to two, or even to one stalk, if the plant be forward, or the hoeing backward and the weather favourable; afterwards the thinning should be continued so as to prevent it from being crowded: according to the richness of the soil, I leave it more or less distant in the drills; of this each planter must necessarily judge, and concerning which many differ.

In my opinion, the aggregate product of a field of cotton is very little affected in quantity by thinning; particularly if it be rich soil; but the quality of the staple, which is of as much importance as the quantity, certainly is very materially. My experiments on this part of the business have satisfied me this opinion is correct.

As early as the first of August, I top the cotton. This is done by pinching off the bud. I sometimes extend this to the limbs also; when the plant is large and flourishing, and the pods backward, I think it may be done advantageously. If the season be moist, the plants luxuriant in growth, appearing full of sap, suckering is very proper; but if these indication have subsided, by the plant appearing more woody, and the leaves have become small, or are decreasing fast, suckering is unnecessary, or may be omitted without much loss. I do not doubt that topping and suckering tend to increase the quantity of the crop some, and the quality much, and therefore should be done as extensively as circumstances will admit; the last, however, is so tedious, and our crops are now so large, but a very small portion of them can be thus treated.

When I have open land sufficient, I have found it advantageous to follow the cotton crop with one of corn, and this last with small grain; taking care to plough the corn, the two or three last times, the way I mean to have my cotton rows when the field is next planted with cotton—thus avoid-

ing the tedious operation of "laying off" the rows. Corn grows kindly after cotton, and with less labour. Cotton succeeds to small grain advantageously, because of the quantity of vegetable matter left for "listing" into the deep furrows intended to be the base of the cotton beds, and which, with the use of the plaister, amply repays both labour and cost.

I will add a little on the subject of manure. We frequently hear much surprise expressed at the quantity of manure that is used by particular individuals; indeed there are but a very few, if any planters, who have not at some time or other, complained of the scarcity and the difficulty of procuring it. Later experience and more attention induce me to say, there is nothing in the southern country more abundant; at least the materials with which to make it: nor can we be ever in want of them, until *black-jack* leaves and *pine-straw* become scarce; a circumstance which every traveller, passing through our state, will be apt to place at a very remote period indeed. In truth every man who shall use the means within his power, will find the supply limited only by his ability to collect and apply it. Generally, when we have carried into the field the droppings of our cattle in our cowpens, and of our horses in the stable, we laud ourselves for the improvement we have made in good husbandry; and in fact this is gaining much, for since my recollection, neither was thought of—the first having served only to make a turnip-patch, and the last remained a constant annoyance throughout the year.—Now, from these alone, we may elaborate as much good manure as we can haul into the fields in season for planting. In making this kind of manure, it is only necessary to be *willing* to collect from the woods, leaves of any kind, pine straw as good as the best, and place them in our cow-pens and stables, to find the quantity of excellent manure increasing beyond our expectations. If top soil of any kind be scattered among them, so much the better. This may be had from the corners of the fences, the sides of the roads, ponds occasionally dry, and such parts of the plantation as from situation will never be cultivated. There are but a very few planters to whom any one of these sources of supply would not be abundant; no one can exhaust all of them that are convenient to him. I might add weeds: can any one apprehend a scarcity of these? and pond grass;

which last, with plaister, I have found admirable for sweet potatoes, on very poor land. Should care be taken to carry into fields of light sandy soil, that which has been collected where clay abounded, and *vice versa*, so much the better: with, or without such care, he who will try it, will find his time and labour repaid with usurious interest.

It is not for planters to complain of the want of manure, until they have proved how excellent are even the carcases of their dead beasts, the very bones of which are valuable. Instead of letting them rot on the surface, alike disgraceful to our care and dangerous to our health, if we will not make the best use of them, by compounding them with six times their bulk of top soil—at least bury them in the field, where they will distinguish the place by superior fertility for many years.

If any man, living in a poor sandy soil, will fill a single furrow across one of the plats in his garden, with black-jack leaves, taken from the woods, even in a windy day of March—bed on them, and plant a row of peas, he will require no farther encouragement to make a larger experiment: fortunately, every additional act to increase their fertility, by littering with them, or by mixing them with dung, will be rewarded with additional returns.

By a process analagous to the above, I make, every year, an excellent compost, by substituting cotton seed for animal dung. Beds, rather mounds, formed with alternate layers of cotton seed, top soil and leaves of every kind, or pine straw, in the fields, immediately while the ginning of the cotton is going on, in such number and places as the size of the field may require; the whole covered up with the soil nearest to the mound, and patted close with the spade; I have found, on opening these in the spring, to be used for cotton or corn, very rich manure. This mode of using the cotton seed, is economical of labour; advantageous, by distributing it throughout the field, to be manured at a period most suitable and convenient; and very abundant in quantity. I think one wagon load of cotton seed thus disposed of, is as valuable as ten in the usual way. The entire evaporation of the oily and other matter of the seed, is prevented from escaping during the process of fermentation, and arrested and retained by the top soil and leaves. I have used each of these component parts of the compost separately; and so completely was the fertilizing quality

distributed, I could discover no difference in their effects. While the mounds are kept well covered, and properly patted with the spade, so entirely is the evaporation prevented, there is no smell perceived near them: every cotton planter knows how offensive a large bulk of rotting cotton seed becomes, exposed to the sun and rain.

Additional supplies of manure are to be had from feeding our cattle in pens. Colonel Taylor has shown, in his Arator, how much may be done in this way with dry corn stalks alone. I have derived as much benefit from keeping my cattle out of my fields, by his system of feeding them in pens, as from the large quantities of manure made in them. But these processes require labour to collect the materials, and labour to distribute the manure; and that which is still more difficult to regulate, *time* also. When I have done all that my labour and time will admit of in these ways, to complete the course of manuring, I sow such parts of my lands, each year, in oats, that I have not been able to manure otherwise. From these, I collect only seed enough for the ensuing year, and plough in the rest, having first plaistered it. *The seed is gathered by stripping it with the hands, from the stems, standing in the field. I think this is the easiest and most expeditious method of saving oat seed that I have seen tried.* The oat straw is best turned under by attaching a skim-coulter, or iron bolt, to the beam of the plough, with the outer end turned down; this should project from the beam horizontally, a little forward of and beyond the mould-board. Oats sown for manure, or indeed for any other purpose, need no other labour than simply sowing; this being done in the cotton field immediately before the hands begin to pick cotton; or in the corn field before it is gathered, will come up very well. It is only necessary to sow them before either operation is commenced, to have them rise well.

It was my intention to say something of my manner of applying manure. I have, however, already, said more than I had intended. For the encouragement of those who are willing to make some additional efforts, allow me to add, by the means above hinted at, I have converted considerable portions of my fields, which were literally exhausted, into as productive soil as any I now cultivate—and this has been accomplished since 1808, by

D. R. WILLIAMS."

To the Editor of the "Southern Agriculturist."

"Factory, 23d Nov. 1828.

My Dear Sir,—Our agriculture affords a field of exhaustless interest; but unfortunately, there are too few labourers for its culture. I feel grateful to every man who puts his pen to paper, on the subject; and yet, for myself, cannot but fear and believe my observations, generally, have been too superficial to be entitled to much respect. Farther experience has satisfied me yet more with the view I have presented in the *American Farmer*, than I felt when I wrote them. The indications there presented are of themselves sufficient to improve a worn-out soil, without the ready and additional aids to be met by all intelligent planters in the course of their experiments, for by such means I have improved my fields. Two other experiments which I was then making, but did not then feel confident in, I have since, satisfactorily tested, and am now fully satisfied of their benefit and economy. I have for several years been in the habit of appropriating a certain portion of land to be sown either with Rye or Oats, in the fall, and to be fed down *after* the grain is ripe. The Rye, on light or sandy soil, and the Oats on "stiff," or that in which clay is predominant. Working animals will thrive when access is given to them into such fields, when an abundance of Corn and fodder has failed to produce that effect at similar work. Mules and horses ought not to be turned into the Rye before night-fall, unless in a damp day.* When the field is apparently exhausted of grain, let in the hogs: to them alone, the benefit will be ten fold the cost of labour and seed, in preparing it. A continuation of this process three years, will surprise the owner by its increased fertility. The other experiments to which I alluded, is the manner of making or curing Pea-hay. When the first Peas are nearly grown, or when the vine is in the highest verdure, set up your stack poles, made of any description of small tree which has numerous branches. Cut these off three feet from the body—cut or pull up the Peas, and immediately stack them, in the ordinary mode, only do not endeavour,

* These fields, until "eaten out," afford all the food my working mules and horses eat, except that which is given at noon.

as in stacking dry forage, to press as much as possible into a stack—the branches which project three feet from the body of the stack-pole, admit air enough to prevent the vines from heating or moulding. When cured, remove them into a house, or restack. The advantage will be found in the quality of the hay, and preservation of the leaves. More long forage may be made, to the acre, in this mode, than from the same quantity of land in any other, and paradoxical as it may at first seem, the hay will cure better, than when exposed to the sun. Better fodder was never offered to a mule, ox, or milch cow.

Your's respectfully,

D. R. WILLIAMS.

To J. D. Legare, Esq.

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Note, by the Editor.

Mr. D. R. Williams, to whom we are indebted for the East-India mode of cultivating Indigo in our May number, accompanied that letter with another, detailing to us a plan he had adopted of restoring his worn out land. He also informed us that he was the writer of a paper in the *American Farmer*, on the cultivation of Cotton, to be found in vol. vii. p. 161, of that truly valuable work, and authorized us to publish it, as we have done in the preceding pages, with his name annexed, as *his* production.

We are peculiarly obliged to Mr. Williams for these details of his management, anxious as we always are to receive information, and particularly at this moment, to have communications on upper country cultivation, from all our readers and friends. We are especially pleased that this first essay on general management there, has come from one possessing the liberality of this esteemed correspondent, who we know will be happy if we turn it to the best advantage for our own improvement, and that of our common country. This we shall try to do, by showing in what way our ideas differ from his, and how far the latter are at variance with such other approved plans of general culture as we have met with in the course of our reading, or in our communication with other agriculturists. These two letters embrace, we suppose, the course of cropping

followed by our correspondent, a planter of experience in the upper country.

Mr. Williams uses the plough, harrow and horse-rake, in preparing his lands for Cotton. He plants with an extremely convenient drill-plough, and *when he covers*, uses the horse-rake. He hoes with the common hand-hoe, and employs also for cleaning, stirring, and hauling his crop, the shovel-plough. Skimmer's double mould plough, and finally the bull-tongue. Lands thus treated, and *well manured*, will bear evidence of the cultivator's zeal in his operations, and if we may judge from his having converted considerable portions of his fields, which he says were literally exhausted, into as productive soil as any he cultivates, and from his gathering twenty-three hundred pounds of seed Cotton per acre, from lands yielding seventy-five bushels of Corn, he is truly a successful planter.

But, if such was our correspondent's system up to 1825, why should he recommend a different mode of fertilizing the soil, and think it necessary to resort, in order to accomplish that object, to the wasteful plan of feeding horses and mules on ripe Oats in the field, following up the ruinous steps of these animals by hogs, also turned into the field to root, and trample, and destroy? We must protest against such an innovation in husbandry, as well as from the mode of gathering seed Oats by stripping it with the hand from the stems standing in the field; this, we cannot think, is the easiest and most expeditious way we ever heard of. When the object is to improve the quality of any crop by carefully selecting the largest and best ears or pods, the time taken to gather the seed by hand is well bestowed, and we think ought more frequently to be done, but this does not appear to be kept in view on the present occasion.

The remarks in the letter of 1825, on the tenderness of the Cotton plant, and the necessity of early planting, in order to gain a long picking season, have attracted our best attention, from their importance in the culture of this invaluable staple of the Southern States. And we notice, particularly the treatment this delicate plant receives from our correspondent's management.

We must be allowed again to differ from him, and on several points. We think, for instance, the time of planting is too early, even for the sea-coast, and by far too soon

for the interior of the State, which, lying farther north, and having a greater elevation, is consequently subject to later and earlier frosts than we are. Some of our most judicious friends near the ocean, begin to plant their Sea-Island crops about the full moon in April. This year, they began on the 13th of that month, and speaking from experience, they say their first pickings are as early as their neighbours', who put their seed in the ground by the 25th of March, or first of the month following. We are persuaded this is the safest and most certain rule for the lower country, and it may suggest a similar one to the experienced planter in the upper. As the object is to get a long picking season, too much caution to *prevent* loss of time cannot be taken.

For several years past, Mr. Williams has omitted to cover the Cotton-seed at the time of dropping it.

We think this mode of planting increases much the risk from frost, while its advantages are doubtful, and the object to be effected is left to means not within the control of the planter; means which may not arrive in due time to accomplish the end, which may do too little and thus occasion a partial failure, or too much and ruin the crop. Even if the seed is covered at a *later* period by the horse-rakes, it may be greatly injured from having sprouted before the operation. Plenty of cattle manure, and good stirring, prevents clay soil from forming a hard cap over the Cotton seed, and with a little more seed drilled in, will, we have no doubt, be effectual. If the manure has been applied to a previous crop, no injury will befal the young Cotton from worms originating in too fresh dung.

In order to reap all the benefit of a long picking season, every effort ought further to be made, to bring on the plant to early ripeness.

We cannot believe that cutting the roots of any annual plant can promote its *early* growth. We are convinced, on the contrary, that the oftener this is done, and the more severely, the greater the injury to the whole plant, and the more it is retarded in its progress to maturity. If the office of the fibrous roots is to collect and supply the food required by the Cotton plant for the support of all its parts, surely to cut off their roots—to force *their reproduction*, must be to direct the nourishment into a wrong channel, and if done *many times*, and as late as the first of August, must cripple every plant, and prevent their bearing fully. Good plough-

ing, by loosening the earth near the roots, no doubt gives life and health every time the plough passes, and this more particularly on stiff soils, for the air and dews are more freely admitted, and the more delicate roots enabled to extend themselves in the softened earth. Even as now generally performed in the upper country, the effect of every ploughing must be seen, but if the fibrous roots were not injured, the advantages, in our opinion, would be yet more apparent, the pods would come earlier, and more abundantly, and the crop of course, be more productive. Great injury is always done by wounding the bark of the Cotton plant. Does not this tenderness extend itself below the surface of the ground to the root also?

When this mode of culture is preceded by throwing thirty to fifty seeds in each chop or hole *ten inches long*, the thinning out, of so many supernumerary plants, must nearly annihilate the feeble roots of those which are allowed to remain; if, afterwards, the plough passes over and cuts off the roots, the unfortunate plants must have a hard struggle for life. Yet this quantity of seed is expressly ordered, by a valued correspondent in the upper part of Barnwell district, in his instructions to his manager, sent for our perusal. We are pleased to find Mr. W. has avoided this too general mistake.

We wish our correspondent would explain precisely in what way the quality of the staple of his Cotton is affected by thinning. Is it the length, or the strength of the staple, or its fineness? Are any, or all of them hurt or benefited?

We cannot help expressing our deep regret, that men, whose examples would go so far to improving the husbandry of our country, should continne the practice of drawing grain and other exhausting crops from their lands, uninterruptedly, for a long series of years, until the fields are worn out. *No fact, we believe, in cultivating the ground, is better established than this, that Cotton, Corn, Wheat, Oats, and other grain, planted in continual succession, and allowed to arrive at maturity, are destructive to the land and ruinous in the end;* and until our leading men set the example of a better culture, it will be vain to expect a general reform. No subject connected with our agricultural affairs, is of more importance than this, *for the scourging system of cropping*, practised in the upper country by so many, is the cause of most, if not all of the dis-

tress there, and alone produces the continual emigration to the new States. One or two spirited examples of judicious *rotation of crops*, and of consequent good general management in various neighbourhoods, in our upper country, would convince the intelligent yeomanry, of the advantages to be derived from a change in their mode of cultivation, and they ought to be begun by our leading influential men.

The depreciation in the price of every thing raised by agriculturists within some years back, notwithstanding the rapid increase of population and of consumption; the consequent distress amongst them, and the prevalence of these circumstances all over the world, warn us to look forward to the necessity of increased exertion, where money to be made by planting is the object we are in pursuit of. We cannot now expect to receive higher prices for our Cotton, for many years to come, for the heavy crop of last year operates in conjunction with the erroneous system of tariffs, and *indirect taxation.* We may prevent our affairs getting worse certainly, and even improve our condition greatly, but this can only be done slowly and cautiously, by every individual changing his system of management, and raising a variety of crops, after the European fashion, of which we have given our readers a specimen, from Chateauvieux, and others, in the second part of this number.

If a total change takes place, that is, if Cotton is abandoned for any other *single* crop, a superabundance of that crop, whatever it may be, will be the consequence; with as sudden and as unprofitable a return to Cotton, as soon as it gets better in price, from the temporary scarcity. Let us then learn from other countries, to improve our agricultural situation by more judicious means. Let us exert ourselves to open the eyes of our countrymen to their true interests.

Is there an error pointed out, let us consider and weigh the argument well, and if our reason confirms it, let us change for the better. The general error we have fallen into, in our husbandry, throughout the whole southern country, it appears to us, is the neglect of our stock cattle, and consequently of *cattle manure.* This last is the true foundation on which every farmer, and every planter, ought to build, and the only one on which they can with safety depend. In the upper country, where the plough is

in universal use, nothing can be more fortunate than the discovery of Mr. Calhoun, that Clover thrives well with us, as detailed in his last year's communication, page 399 of volume first, and confirmed as it is, fully, by Mr. Hugh Rose. What, now, is to prevent every farmer and planter, in the upper districts, from fattening their beeves, their *hogs*, and their sheep, for the Charleston market, *hence increasing the number of their stock, cattle, &c. of feeding them in well littered pens*, and like Mr. Lorain,* calculating their straw and corn-stalks by the fifty tons, their manure by the fourteen hundred cart loads, and make crops like his, more than fourfold, from smaller fields than they now are planting.

Shall we venture to express a regret at any thing contained in the truly valuable communication mentioned above? Shall we venture to dissent from another upper country planter of far more experience than we can pretend to? Should we not fail in our duty if we neglected in one single instance to point out what we think an agricultural fault, and as many, no doubt follow the example we speak of, must we not bring forward what we think an error, which ought to be corrected? We mean Mr. Calhoun's course of crops, detailed by himself, in his letter on Clover, already referred to.

If, instead of Cotton, Corn and Oats, Rye or Wheat, over and over, again and again; or Cotton for four years, Corn followed by Rye, then Corn again follow, succeeded by Oats; if ,in lieu of these, a regular rotation of crops can be introduced amongst a few of our prominent men, the strong, natural good sense of our upper country planters, would soon lead them into that mode of cultivating, and they would fast improve upon it.

The whole world has been for years emerging from a state of unexampled revolution and excitement, the moral effects of which have not yet fully developed themselves, and to which we ourselves gave the first impulse. What the consequences of the unexampled state of activity and intelligence of so many great nations will be, cannot yet be foreseen, all that is necessary for our purpose, is to look at their present agricultural bearing upon us, and that is to

* See his statements in our Selections, part 2d.

create every crop in superfluity, as rapidly as they are called for.

To take advantage of the state of activity and intelligence that *we* are in, to direct the agricultural energy of our Southern country, ripe as it is, into more useful and profitable channels; to convey such correct information, and with it to endeavour to give such a *bias*, as will imperceptibly lead our planters to lay a more solid foundation of comfort and independence, than can be done by mere *money crops*, is what we earnestly call on all our friends to help us in. For the editors of this work to attempt this themselves, would be as vain as presumptuous, but with the aid of those who can influence society; with the helping hand of those who can lead, and who have led their countrymen, much is possible even to us. All that we wish, is to be the humble instruments to spread through these happy States, such knowledge and information as shall be imparted by the Spaldings, by the Calhouns, by the Coupers, the Seabrooks, and Williams'; *perhaps* by the Haynes', M'Duffies, and Hamiltons, all agriculturists, and therefore personally, as well as patriotically, interested. Our Elliotts and Barnwells are again on the wing in search of information. Our governors, our judges, our official men, are many of them planters. Those who are not so, are yet deeply interested in Southern agricultural improvement, for who are not dependant upon it, live they in the city or in the shades of a country life? then if their important avocations prevent their writing in the cause of agriculture, they can use their influence to lead others aright—can we say more?

In the nineteenth century, and in the Southern States, the advantages of a general diffusion of knowledge and information, of unanimity of sentiment on all great points which affect the interests of the planter, need not be dwelt upon, for they have too recently been *forced* into the minds of even the most unreflecting. Let us then join, from the wealthiest to the humblest; from him, who has followed the windings of the most abstruse science into its deepest recesses, to the simple cultivator, who has stumbled accidentally on the improvement of a pumpkin, or a potatoe; let all the knowledge that is so widely diffused throughout the Carolinas and Georgia, be brought within the reach of every one who will read, and with it, if we can draw in the experience of that noble part of the South, the ancient

dominion of Virginia, we shall have little to fear from those who are not the true friends of the Southern planter. With the climate nature has given us, with a rapidly increasing population, with the skill we *have* and *can acquire*, by having the mere *will* to acquire it, every thing is possible to us.

Let, then, the upper couuntry pour into the lower, all those supplies that it now pays so dearly for to other States. Let it send abroad its Cotton yet more abundantly, and improved in quality, and carefully put up. Let the planters in other divisions of the States improve their Sugar crops, as they have so wonderfully done their Cotton. Let them cultivate the vine, and draw into our States the millions upon millions that it has so long given to France and other countries. Let Southern Indigo drive out that of India, and take back the place it formerly held. In short, let the Southern planter rouse himself and adopt a judicious system of husbandry, and we shall then present to the world, not a modern Italy, cultivated like a garden, yet nourishing the rankest weeds of despotism, but the Southern plantation States of America, enriched by the agricultural skill, perseverance, and industry of her sons; and these enjoying, every one under his own vine and his own fig tree, the reward of his labours, secured to him by a constitution of pure and equal rights. J. G.

ART. IV.—*On Overseers; by* A SUBSCRIBER.

Mr. Editor,—In your numbers for January and February last, "*A Well-Wisher to Agriculture*" has written, and you have judiciously published some excellent observations on the advantages to individuals, as well as to the community, likely to result from agricultural education and apprenticeship. Reflecting on the subject, I beg leave to submit the result for the consideration of your readers.

The present want of system has been pursued so long, and the impression is so general, that *anybody* may be an overseer, that time, and a continued train of reason, reflection, and experience, is necessary to effect the adoption of

that writer's principles and objects. If I can promote the plan by any means, it will afford me pleasure. We have all a general interest in its adoption; many of your readers are particularly interested. It is necessary that as many as possible should co-operate in aiding the measure; it is still more necessary, that those holding the greatest stake should be the most active in promoting it. It appears to me to be not only practicable, but highly probable of success; of its great benefits when successful, no one can doubt. To assist, I would suggest the adoption of something like the subjoined outline which may be modified and improved by the reflections, the experience, and the better judgment of those who may hereafter take an active part in its promotion.

1st. I propose, that the Agricultural Societies in each district appoint each a Committee for this purpose, which may be called, at their pleasure, the Committee on Education, or Apprenticeship, or in compliment, by the name of any particular gentleman who may foster and encourage it.

2d. That this Committee inquire among those most interested, for a few gentlemen, who will take an apprentice, each, for the purpose contemplated. In making the choice, those gentlemen should be selected whose temper and deportment would conciliate, while it commanded attention to the studies and duties of the apprentice.

3d. That this Committee inquire at the Orphan House, and the Free Schools, from the respectable people of their acquaintance in moderate circumstances, for intelligent lads, of good character, who would be willing to undertake the business under their care and patronage, to consider themselves as the patrons and guardians of such lads, and sign the indentures with them. The time is peculiarly favourable for success, as there are many respectable people among us, who meet with great difficulty in finding employment for their children, both before and after apprenticeship.

4th. That for promoting agricultural studies and pursuits among the rich as well as poor, each Committee, or each member of the Committee have a class for instruction in such subjects. Those of the class who are well educated, assisting the Committee as monitors, in reading to the class pieces judiciously selected for practical purposes by the Committee or others; in questioning the class, to prove their comprehension of, or attention to the subject read or

lectured on, and examining and correcting the papers that may be given them to transcribe, for improvement in writing, in diction and knowledge.

5th. To commence a course of such studies in Charleston in July next, in the Hall of the Apprentices' Library Society, where many valuable books may now be had at little or no expense, where others may be easily provided. The planters will then have returned to the city, many will have but little else to produce excitement of mind, or employment of body, and the apprentices will have an opportunity during the summer and fall, to improve themselves by study, instruction, and practical demonstration, in the vicinity, before they commence in the winter, the more active duties of their undertaking.

6th. To encourage, as far as possible, the establishment of similar classes at the different pine-land and other villages in the State, where the school-master, the minister, the doctors, and the lawyers, if any, may all be useful in promoting general improvement, while they learn and communicate agricultural knowledge.

7th. That continued applications be made to the Legislature to establish a Professorship of Agriculture in the South-Carolina College, for the purpose of extending this valuable branch of knowledge, enabling the learners to teach others, and preventing the many abuses and deceptions that are constantly practiced on young and inexperienced planters.

8th. That there should be a written contract to promote the health and welfare of the apprentices as far as possible, by lodging them, during the sickly season, in some pine-land retreat, and affording them the instruction of some respectable, experienced overseer, where the planter cannot himself superintend and instruct.

I will only add, that the gentleman who undertakes this charge, should not be discouraged by a small number of learners, by partial or imperfect success, or occasional failures. It is a process of education, and that is always slow, and success precarious. Let us suppose that one in ten may not turn out well, still you create nine respectable well-informed overseers, personally attached to you, and increase the character and emulation of all others.

A SUBSCRIBER.

8th March, 1829.

ART. V.—*Agricultural Observations; by* WILLIAM H. CRAWFORD.

"Wood Lawn, 4th April, 1829.

Sir,—Your letter, requesting me to furnish the Editor of the *Southern Agriculturist*, with the result of an experiment, which, you have been informed, I made with the Sugar Cane, has been received. If I had believed that the result could have been useful to the public, it would have been communicated without request.

In April, 1827, I received a few plants of the Sugar Cane, from Savannah, which had thrown out roots at each joint. I planted them immediately, in good land, and manured them with cotton-seed. Planting them after they had began to vegetate, as was foreseen at the time, rendered their throwing up shoots later than it would have been, had they been planted before vegetation had commenced. The summer was unusually dry. The plants, however, matured about three feet; and the Cane was at least one-third larger in diameter than that which I had planted. In December, thereafter, I planted the Cane which I had raised, but while I was holding Court in Wilkes county, in the month of February, the hogs got into the inclosure and rooted up every plant. Since then, I have not, as you have been informed, ordered a supply of Cane, and shall not, until I can obtain a supply of the Plaister of Paris. Those who have eyed the Plaister as a manure, think its *modus operandi* is by rapidly decomposing such vegetable matter as it comes in contact with. If this opinion be correct, I am of opinion that the Plaister of Paris, combined with Cotton-seed, will be the most active and powerful manure that can be applied.

I have but little experience in agriculture. I did not own a farm* until I was extensively engaged in the practice of the law; and continued in it still more extensively until I was elected a member of the Senate of the United States. I continued a member of that body until I was appointed minister to France: when I returned from that mission I found myself a member of Mr. Madison's cabinet; and remained a member of Mr. Monroe's, through two Presi-

* My seat in Oglethorpe County is about latitude 33°, 40.

dential terms. For two years after my return to Georgia, such was the debility under which I laboured, that I was unable to exercise any superintendence of my agricultural interests. You may therefore readily conceive that I am not qualified to contribute much to your useful journal.

I have, however, not been an unmindful spectator of the agricultural facts and experiments which have come within my notice. Red Clover and the Plaister of Paris appear to have been the efficient cause of the improvement of agriculture in the middle and northern States. We have a vegetable, which, I believe, may be made more efficient in the South than Clover in the North. It is the Indian, or Corn-field Pea. There is a kind of this Pea, which, planted in the autumn, will, after lying all the winter in the earth, come up in the Spring. I have lately procured this Pea, and expect this fall to have enough to commence the system which I have devised in my mind. When I have made the experiment, I will communicate it to you, whether it be successful or not. The reason why I believe the Pea will be more efficient, with us, than Clover has been in the North, is, that we can make two crops a year of Peas, and but one crop of Clover can only be obtained in the North, in two years.

I am, sir, respectfully, your most obdient servant,

WM. H. CRAWFORD.

To JOHN D. LEGARE, Esq.

Note, by the EDITOR.

Mr. Crawford will observe in the perusal of our present number, that his experiment with the Indian Pea will be deeply interesting to us, as well as to all our back-country readers, as supplying one of the crops in the rotation we have recommended. We do not think, however, it will take the place of the Red Clover, the wonderful advantages of which have been quickly felt, whenever it has been tried. On the contrary, we are confident when this invaluable grass has been fairly introduced, that our planters will only wonder how they were ever able to live without it.

J. G.

Art. VI.—*On the Winter Bean.*

We call the attention of Agriculturists in the Northern, as well as *in our own States*, to the *Winter Bean*. It is thus mentioned by Chateauvieux, in his letters from Italy, and we presume is the same as that described in the *English work*, which we also quote as recently introduced there, under the name of the "Swiss Bean." If it is to be procured in the United States, we should be glad to be informed by letter, or through the American Farmer:—

"The winter beans seem the only crop meriting particular notice. Within a few years they have been successfully introduced into the neighbourhood of Geneva; that is to say, into a climate where the winters are more severe. The beans endure them without injury, and may be introduced into the northern countries, where they may become a valuable article in agriculture; being well adapted to fill up vacant spots in various crops.

"The winter bean resembles the spring bean, in plant, flower, and seed. It is sown in the beginning of September, and it must acquire strength in the autumn to support the severity of the winter.* The stem withers and dies under the snow, and during frost; but early in the spring, several new stems shoot from the bottom, which flower in May, and the seeds ripen in July.

"The culture is very simple; after a manured crop of wheat, the earth is turned in by a single ploughing, and moulders by exposure to the weather. The beans are put into the ground early in September, either sown broad-cast and harrowed, ploughed in, or drilled in lines, which admits of their being horse-hoed in the spring, otherwise they must be hand-hoed in April.

"The crop being harvested in July, there is time to prepare the land for wheat, which follows it, and usually succeeds well.

"This culture, adapted to open and clayey soils unfavourable to the growth of roots, accords well with the different periods of ploughing and sowing, and keeps up

* In Geneva.

the fertility of the soil. It includes every desirable circumstance, and I have no doubt will extend rapidly."—*Chateauvieux*, p. 49.

"*The Winter or Swiss Bean.*—We are desired to call the attention of our readers to the merits of this lately acquired variety of horse-bean, which promises to be a valuable acquisition to the British farmer. It is an early and remarkably hardy sort; standing the winter's frost without injury,—podding about the first of June, and ripening in the latter end of July.* It may be sown any time between the 15th of September, and the middle of October. Any wheat stubble, in pretty good heart, is suitable; and no particular preparation of the ground is necessary. Its early podding secures it from the attack of both insects and mildew;—and being so soon off the ground, is an advantage which need not be pointed out to the practical farmer. The produce is about four quarters per acre. We hear Messrs. Gibbs, seedmen, Piccadilly, have been cultivating them to some extent, and of course can supply the seed in any moderate quantity."—*British Farmer's Magazine*, vol. ii. No. 6, p. 72.

"*Sowing Field Peas.*—A Correspondent requests information on a practice which is new to him, and may be also to many of our readers, namely, the sowing of field-peas late in the autumn, which are said to resist the severity of winter, ripen considerably earlier than peas sown in the spring, and to be equally, if not more prolific, than the latter usually are."—*Ib.* No. 7. p. 206.

* This bean would certainly ripen with us in April, or early in May, like the English Pea.

PART II.

SELECTIONS.

ART. I.—*Italy, its Agriculture, &c. from the French of Mons.* CHATEAUVIEUX, *being Letters written by him in Italy, in the years* 1812 *and* 1813; *translated by* EDWD. RIGBY.

OBSERVATIONS BY THE EDITOR.

On Back Country Cultivation.

In our last extract from this author, we gave his meagre details on the culture of Rice in Italy, more to show that one of the assertions made by those who opposed the liberal views of the Agricultural Society of South-Carolina, was altogether groundless, than for any information it could furnish to our Rice-planters, relative to that invaluable grain. But the selections we now make, containing the rotation of crops, *including the cultivation of Cotton*, we think are so important, that we intreat our readers to study them with care, opposed as they are to all the agricultural usages and customs of our own Southern country.

Our upper country friends will be surprised to find our author convinced, that the kingdom of Naples alone could supply the greater part of the Cotton wanted in Europe, *without lessening its own consumable produce.* They might even be alarmed if they merely viewed the simple fact, that a country, meaning *all Italy*, which enjoys a climate happy as our own, long practising a superior system of husbandry, on lands originally fertile, and whose fertility is kept up by a course of crops the best arranged and the most productive in the world; if such a country, whose population is upwards of twelve hundred inhabitants to every square league of ground, had boldly entered into the cultivation of

Cotton, and if it had done so in opposition to these Southern States.*

But we must see the state of things nearer, we must look at the people and their character, the government and its influence on them, to be able duly to estimate the danger of such an opposition, or rather to ascertain whether any danger or opposition exist.

A great advance in the price of our Cotton might induce the whole of Italy, as it has done Egypt, to cultivate a crop, which, as our author says, "enriched some families, who little expected in this world any more than a moderate existence;" the present state of the Cotton trade prevents their interfering with us altogether. For as it was Buonaparte, and his restrictive system, that, by raising the price, first excited them to cultivate it for sale in Naples, so when that system ceased, and the impulse that extraordinary man had given to all Italy was at an end,† its inhabitants sunk back, after a feeble effort or two, into their former apathy, and again abandoned themselves to obscurity and peace. They are now under a truly despotic government, which is more anxious to keep them poor, and ignorant, and *quiet*, than to encourage industry. They are naturally indolent, which has been increased by many circumstances. The farmers do not own the lands they occupy; they cultivate *with the spade*, and merely hire as much as will support existence, and as each family can attend to, that is to say, *four or five acres*. Two-thirds of what they raise is paid to the owners of the soil as rent, who spend their time in cities, in idleness. Neither proprietors nor cultivators have any energy of character; they are without enterprize, and the country without trade compared to its resources.

* The population of Italy, as returned for *conscription*, a return which is never exaggerated! was more than seventeen millions, on fourteen millions of square leagues.—*Chateauvieux*, p. 289.

† "I was in Italy in 1791, and no one would then have suspected, that it would have raised, ten years after, three hundred thousand soldiers. Italy, at one time, had three hundred thousand men under its standard, of which eighty thousand were from the kingdom of Naples, eighty thousand from the kingdom of Italy, and a hundred and forty thousand from French Italy. The male strength of nations is nearly the same among different people, and in all climates, *but it must be called into action by the influence of the imagination, of interest and the passions. This impulse is the more easily given, because there is in man an instinct of imitation, which acts upon him imperceptibly, as it were by contagion, and which is communicated as rapidly as unexpectedly.*"—*Ib.*

In a conversation with one of the metayers, or farmers of the country, who pay rent in kind, Mons. Chateauvieux learned the course of agriculture followed near Naples, *before the introduction of Cotton.* The order of crops planted he states to be—

First year,	Maize—Manured.
Second	Wheat.
Third	Onions and legumes (for city consumption.)
Fourth	Wheat, followed by Beans or Clover.
Fifth	Melons, (for the city;)

Besides which, they have fruits, the produce of their vines, and collect as fodder the leaves of trees, which grow on the same land.

The variety of vegetables, says the writer before us, judiciously mixed in this system of cultivation, keeps up the fertility of the soil, with but little manure.

"We cultivate in succession" said the metayer, "melons between the rows of elms, which we carry to the city to sell, after which we sow wheat. When the wheat crop is taken off, we dig in the stubble, which is done by our families to sow beans and *purple clover.* During six months, our children go every morning to cut a quantity of it with the sickle to feed the cows.* We plant maize the following spring, after clover or beans. We manure the land *at this time*, because this plant is to support our families. We often gather seven ears from one stalk, and many of them *(viz. the ears)* are three palms long.† We have no sooner got in the maize, than the earth is again dug to be sown once more with wheat. After this second crop, we grow in the field only vegetables of different kinds. The trees you see on the land are not without their use. They support the vine and give us fruit; we also gather their leaves, it is the last autumnal crop, and serves to feed our Cattle in the winter time."

* This is what is termed *soiling* in agricultural affairs.—EDITOR.

† "On the edges of the Pontin marshes in the drained lands near the foot of the mountains," says the author, page 173, "I measured some plants of maize which were sixteen *French* feet high, and some of hemp, nearly as large." [We have seen stalks of Corn in Carolina, bearing nine ears.]—EDITOR.

"Our lands thus produce wine and fruit, corn and vegetables, leaves and grass for our cattle. We have no reason to complain of their fertility, but our condition is a hard one, little being left us for our pains; we have no ploughs, the whole is cultivated with the spade. If the season is not propitious, the metayer has much to complain of."

"The plain of Sorrento is almost the only part of the kingdom of Naples, in which can be seen the effects of an active and well-directed industry. It is also in this beautiful country that the villagers have successfully introduced the culture of cotton; a culture which the usages of society have rendered so necessary. It had been, before, adopted at Naples; but, until with a few years, it was sown only on small spots, for a local and limited consumption.* The continental system, having raised the value of this plant, a larger space was allotted to its cultivation; and the farmers, in this country, profiting by the natural advantages of their climate, furnished, in the year 1812, *nearly sixty thousand bales of cotton to the manufactures of Europe.*

"The land which I have just seen, promises, this year, (1813) an abundant crop, which will enrich some families, who little expected, in this world, any more than a moderate existence. This consideration added much to the interest I felt in visiting this country.

"I learned the method of cultivating the cotton, on a large scale, adopted by the metayers of Piave de Sorrento, and the way in which it has been introduced into their regular course of husbandry.

"The land is turned over, by the spade, in the month of March, and the seeds are sown in lines, at three feet distant; the plants, in the lines, are two feet asunder. The earth is so rich as to require no manure, but only to be constantly kept clean; women are, therefore, employed during the whole season, in weeding the fields of cotton. As soon as the flowering is over, and the well-formed capsules require only the sun to ripen them, *the ends of the branches are nipped off*, thus determining all the sap to the fruit.

* This is a remarkable fact, and shows the blindness of a people sometimes to their own interest. Cotton was planted at Urbannah, in Virginia, for domestic purposes, by the father of the Editor, the late James Gregorie, long before the war of the Revolution, and it is believed also by many others, yet it was not introduced there as a general crop until a few years back.

"The harvest lasts a long while, and consists in collecting the capsules as they ripen. It is then only requisite to clear the cotton, by separating it from the seeds. This operation is long and tedious. They were endeavouring to make machines to simplify the process; but I have not learned whether they have succeeded.

"The course of husbandry adopted in the land which has been covered with volcanic ashes, and of which I gave you an account in a preceding letter, left no room for the cultivation of cotton. It could not be admitted without changing the established course; the succession of crops which I am going to describe, is the result. It merits attention, because it is, probably, the best arranged and the most productive of any in the world.

"None of the crops, which, in the old system of the country, were immediately necessary for the farmer's subsistence, could be dispensed with. They, therefore, continued to begin with the culture of maize, for which the land is manured. Wheat follows it; beans are then sown immediately after harvest. This crop being intended to feed cattle during the winter, is taken up sufficiently early to admit of the land being prepared to receive the cotton seeds by the end of March; after this is harvested, wheat is again sown the same autumn, to which succeeds the purple clover. Melons are grown after the clover, and legumes, planted as soon as the melon crop is taken off, occupy the ground until the spring, and finish the course. It is as follows:

First year	Maize—manured.
Second	Wheat, followed by beans.
Third	Cotton.
Fourth	Wheat, followed by wild clover.
Fifth	Melons, followed by legumes.

Five years—eight crops.

"This course, thus, furnishes eight crops in five years, two of which are corn, three are leguminous, one is commercial, and two are for the support of animals. It is impossible to arrange these different crops in a better way. *The nature of their growth, and the different culture they require, alternately rest and prepare the soil, whose fertility is kept up by this variety, producing the utmost which can be rendered by nature to human industry.*

"This system appeared to me so well conducted, that I think it probable the cultivation of cotton will not cease at Naples, even after the peace, for it is there so well established, and so economically conducted, that I believe it capable of competing with that of America. The colonial cultivation is, hitherto, so little understood, and so much in its infancy, that little as the climate favours the Europeans, they have the advantage over the colonists, *whose system exhausts the soil by a repetition of the same crops, without any restorative process.*

"The great value of the cotton produced in the small territory of Sorrento, makes me remark how small a space would be requisite to supply all Europe with the commercial productions it stands in need of, if they were exclusively cultivated. In moderate soils, and in the system of fallows, the greater part of the crops is absorbed in the local consumption, a very small part only going to market. Thus the culture of these lands returns, perpetually, on itself. It produces a revenue always similar, and always limited; and as it yields to industry but a small portion of its productions, it supports little, and never increases the national prosperity. *Every thing remains stationary in a country where fallows are used.*

"One is surprised, on the contrary, at the enormous commercial value which is, annually, created on a limited soil, the skilful and active culture of which exceeds, in its production, the demands of the local consumption; thus furnishing a large surplus to exterior commerce. It suddenly creates around these countries an activity and a mass of exchanges which rapidly promote the public prosperity.

"It is thus that a moderate part of St. Domingo formerly produced sugar enough for the consumption of half Europe. A small marsh, when drained, alone produced the valuable flax which enriches Belgium. A narrow valley, between two mountains covered with pines, possesses the only manufacture of the Gruyere cheeses; the exportation of which extends as far as the Indies. *And I am convinced, that the kingdom of Naples could easily produce, without lessening its own consumption, the greater part of the cotton wanted in Europe.*"

We now wish our readers to profit by these extracts, and to apply them to their own use. Some may not be aware

that in what is termed a *rotation of crops*, a field or a portion of land, is allotted to each kind of crop. That each field grows every one of three crops *in its turn*, and that all the fields are thus in an unceasing state of advantageous change, and *never idle*, while no crop is raised two years running on the same spot of ground.

We will suppose a farm, or part of a farm or plantation, in the upper or lower country, of fifty one hundred, or one hundred and fifty acres of land, divided into ten fields. We do not mean divided by cross-fences, but that one fence should inclose the whole. It may have any shape nature gave it, and may be thus represented for our present purpose—

Part of a Plantation divided into ten fields.

No. 1. 10 acres.	No. 2. 10 acres.	No. 3. 10 acres.	No. 4. 10 acres.	No. 5. 10 acres.
No. 6. 10 acres.	No. 7. 10 acres.	No. 8. 10 acres.	No. 9. 10 acres.	No. 10. 10 acres.

The outer lines designates the fence, and the dotted lnes the imaginary divisions of the fields. Crops of our own country, viz: the Sweet Potatoe, Cow Pea, or what would be better, the Chickasaw Pea, Pumpkins, Squashes, &c. for horses, cattle, and hogs—larger portions of Clover for the same purpose, and such vegetable crops as we can use in feeding horses and stock, may be substituted for the Legumes, Melons, and Onions, of Italian husbandry.

The rotation in which Cotton is adopted in Naples, embraces *eight* crops, and extends to *five* years. It will give nearly the following divisions of time :—

First year, -	Maize,	from	March to September.
Second - -	Wheat	"	October to June.
Third - -	Beans or Legumes		June to April.
	Cotton	"	April to December.
Fourth - -	Wheat	"	December to June.
Fifth - -	Clover	"	September to April.
	Melons	"	April to September.
	Legumes	"	September to March.

But we will at once apply this system to these Southern States, to the best of our abilities, by giving the following rotation of crops, which we hope some one will try, unless other planters will suggest a better. If we can get the

Winter Bean, and Winter Pea,* this course will include ten crops, and would occupy six years; if we cannot get these useful articles, perhaps the Irish Potatoe,† Turnips, and some other vegetables, may fill up the gap for the present, and be of use for stock. The Clover crops require, it is to be observed, no cultivation.

First year,	Cotton, on new land,	April to November.
Second	Wheat and Clover‡ at one planting manured with Cotton seed *broad-cast.*	December to June.
	Clover, left on the ground	to April.
Third	Sweet Potatoe on Clover listed, or ploughed in,	April to Sept.—Roots. June to Dec.—Slips or
	Winter Beans, Peas, or vegetable crop,	Nov to March. [Sprouts.
Fourth	Corn, with Pumpkins and Cow Pea, or Chickasaw Pea (highly manured with cattle manure,)	March to September.
Fifth	Wheat and Clover, at one planting, manured with Cotton seed *broad-cast,*	September to June.
	Clover left on the ground	to April.
Sixth	Potatoes on Clover, listed in or ploughed,	April to November.
	Vegetable crop or Winter Bean,	to April.

If the planter does not plant *new land*, but commences upon old, begin the course with Corn well-manured, or *as well-manured as he can.* The Cotton seed *broad-cast*, we are told, has been tried in the upper country, and found to succeed well as a manure to Wheat.

* See p. 176; also Mr. Crawford's Letter, p. 174 in the present number.

† We believe the Irish Potatoe, planted in November, would be off the ground in time. We planted them last winter in December; they were cut down twice by frost, but not hurt, and on being dug this day, the 4th May, were found of good size. Ten weighed a pound, and fourteen, including some of the smallest, the same weight. Northern Potatoes, we are now using, taken indiscriminately, weighed eight to the pound. The ground was an old Rice barn-yard, made solid with clay, and although well manured, was a bad soil.

‡ We suspect our upper country friends are not well-informed on the uses of Clover when green. It is, perhaps, the best food for hogs that is known. Red Clover is either sown immediately after the Corn is sown and harrowed in, or sown after it makes its appearance above ground. In the first case, it is usually harrowed in with the back of the common harrow, or with a very light harrow, but a better mode is brushing it in with a bush of small thorns.—*Agricultural Survey of the North Riding of Yorkshire, pub. by the Board of Agriculture.*

Clover is generally sown amongst the Barley crop, and sometimes amongst the winter Wheat.—*Survey of West-Riding.*

Common Clover is usually sown together with Wheat.—*Domestic Encyclopedia.*

The order in which these Crops would come on each field, would be as follows:

Field No.	1st Crop.	2d Change.	3d Change.	4th Change.	5th Change.	6th Change.	7th Change.	8th Change.	9th Change.	10th Change.
1.	Cotton.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.
2.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Cotton.
3.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Cotton.	Wheat&c.
4.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Cotton.	Wheat&c.	Clover.
5.	W. Bean.	Corn.	Wheat&c.	Clover.	S. Potatoe.	W. Bean	Cotton.	Wheat&c.	Clover.	S. Potatoe.
6.	Corn	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Cotton	Wheat&c.	Clover.	S. Potatoe.	W. Bean.
7.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Cotton.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.
8.	Clover.	S. Potatoe.	W. Bean.	Cotton.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.
9.	S. Potatoe.	W. Bean.	Cotton.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat&c.	Clover.
10.	W. Bean.	Cotton.	Wheat&c.	Clover.	S. Potatoe.	W. Bean.	Corn.	Wheat.	Clover.	S. Potatoe.

We would now ask our upper country friends to consider the advantages to be derived from this system of cultivation. with good ploughs and harrows, and well-fed teams. With us, on our present plan of cropping, lands are too soon reduced to eight or ten bushels of corn, two to three hundred pounds of seed Cotton, and five to ten bushels of Wheat per acre, while every thing around is without comfort, and growing annually worse. On the other hand, from land that was *in Clover two years*, Mr. Colhoun got one thousand pounds of Cotton, for four years successively, and, by once manuring, almost sixty bushels of Corn per acre, the very year succeeding these crops of Cotton, *even in a very dry year*. Mr. Williams has gathered an *immense* crop* of seed Cotton from ground which produced seventy-five bushels of Corn to the acre. Now compare the crops mentioned hereafter as grown on an English farm, with that raised by Mr. Lorain, both cultivated by *rotation of crops*, and say what may be calculated on *in our climate*, when our lands have been treated for some time in the same way, after the European fashion, and on which the stalks of Corn bear seven ears each, many of them three palms long. It is true the Corn field would be but small, but fifty or sixty bushels per acre would be equal to the produce of a large field, (and Mr. Colhoun says, all who saw his, believed it would have brought seventy or eighty) while the work would be light, for it would be on a small space of ground, clear of stumps and roots, and in high tilth. The same would hold good of the Cotton crop, and of the Wheat, the

* We fear some typographical error, and therefore do not quote the quantity.

latter of which, in all probability, would give twenty or thirty bushels per acre.*

* Our readers may think us sanguine in our calculations, but we would observe, that our rule is to calculate profits as far as we can, always below the mark, and expenses rather above the reality. To show what can be done with good management in other countries *in Wheat*, we copy the following from one of the best practical books we have ever met with, namely *Brown's Survey of the West Riding of Yorkshire, published by authority of the British Board of Agriculture*, and as it is another instance of the advantage of rotation of crops, it will afford a good study for our Southern planters.

"Rotation of crops pursued upon a farm in the West Riding of Yorkshire."

[N. B.—In England, Grazing, as it is termed, is a distinct pursuit; hence in this instance, no cattle are kept. In that country, the farmers purchase manure in every direction. They have even brought it from the field of the battle of Waterloo!]

"Arrangement of the Land.

"Grass land only sufficient to keep two milch cows, and horses necessary for working the farm. 69 acres of the best land, divided into three equal parts:—1st. Fallow with from 16 to 20 loads of manure per acre, set it with Irish Potatoes; after sow Wheat; and then fallow again: 3 acres of the same land that is liable to be damaged by sparrows when sown with Corn, *(Wheat)* is set with Potatoes every year, with about 10 loads of manure per acre each year. 84 acres of the higher land is divided in the same manner, one-third fallow with ten loads of manure per acre; set Potatoes, and then sow Wheat; and fallow again, 42 acres of land lately an old pasture divided into three parts; one-third Flax, then sown with Rape, and after they come off, plough and harrow the land three or four times, and lay upon it about 20 loads of manure per acre, which will make it in great condition; after which set Potatoes, then sow Flax again, and Rape after. 150 acres were divided into three parts: 1st fallow; 2d Wheat; 3d Beans, drilled at nine inches distance, hand-hoed twice; fallow again, &c. 80 acres of land that was lately in old grass, divided into four parts: fallow; Wheat; Beans drilled; and Oats; then fallow again, &c. The remaining 4 acres thrown into any of the crops that are likely to fail.

"Distribution of the crop for 1795.

		Average produce of an acre.	Bushels.
Wheat	121	acres from 3 to 5 quarters	24 to 40
Beans	70	" 3 to 6 "	24 to 48
Oats	20	" 6 to 10 "	48 to 80
Flax	14	" 45 to 55 stones	
Rapes	14	" 4 to 5 quarters	32 to 40
Potatoes *(Irish)*	68	" 60 to100 sacks	210 to350
Fallow	121		
To be thrown when a crop fails,	4		
	432		

Servants, Horses and Cows, kept upon the farm.

4 House Servants.	26 Horses.
16 Labourers.	2 Milch Cows.

The above is an account of a farm belonging to the best manager in *Marshland*. He fallows his land very often, yet he is well paid by his superior crops. The last year* (1795) he had 100 sacks per acre off most of his Potatoe land, 14 *pecks per sack*. All their Corn is sold by the quarter of 8 Winchester bushels, though I believe their measure rather overruns."—*Brown's Survey*, p. 93.

* Our readers will observe from this remark, that the crop had been actually produced before it was noted down by the Surveyors.—*Ed. So. Ag.*

PART III.

MISCELLANEOUS AGRICULTURAL ITEMS.

Importance of Live Stock in Great Britain.

April.—At *East Ilsley Fair*, 30,000 Sheep and Lambs were offered for sale. At *Chelmsford*, 3000 Sheep were penned. At the *Mine of Ord*, there were 2000 cattle on the field. At *Inverness*, one gentleman sold 1000 Wethers; another lot of 1200 was sold at 16*s.* 6*d.* each.

August.—At *Alresford* fair, 20,000 Sheep and Lambs were penned at *Ipswich* lamb mart. This fair was unusually well supplied with Sheep stock, say 130,000 came up well in condition. *Burnet* exhibited nothing short of 20,000 cattle; 6000 of which were Scots. At *Wilton*, *St. Giles'* great Sheep fair, the number of Sheep and Lambs amounted to upwards of 90,000.

At *Falkirk Trysts*, in September, the number of Sheep was 60,000 and the cattle 55,000. In October, the number of Sheep was from 90,000 to 96,000.

At *Lockerley Lamb Fair*, 30,000 to 35,000 Lambs appeared on the hill.

Bannagher Fair, *Ireland*, exhibited 25,000 Sheep.

[*Br. Farm. Mag.*

Exhausting and Ameliorating Crops.—The causes which give to particular crops the character of being exhausting or ameliorating to the soil, depend either on their being allowed to mature their seed, on their particular mode of culture which admits of the tillage of the ground during their growth, and on their yielding manure. Wheat, barley, oats, and rye, are consequently exhausting. Turnips, carrots, parsnips, beet, cabbage, and rape, if cultivated for their leaves only, are ameliorating. In the case of the turnip, the mode of cultivation, and the quantity and quality of manure it produces, combine with the other circumstance of its not being allowed to mature its seeds, to render it one of the most ameliorating of all crops; whereas if allowed to run to seed, it becomes one of the most exhausting. Potatoes and beans, although allowed to mature their seeds, are considered among the ameliorating crops, because they admit of being cultivated at wide intervals, and permit the ground to be tilled completely during their growth; they also yield manure. Clovers, if used for herbage, or cut early for food, are ameliorating. If cultivated for their seeds, exhausting.—*Quar. Jour. of Ag.*